

WHAT IS CLAIMED IS:

1. An information recording and reproducing apparatus comprising:

5 a first reproducing device for reproducing audio information from a first information record medium, in which the audio information is recorded;

a recording device for recording the reproduced audio information into a second information record medium;

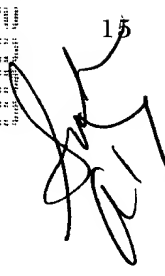
10 a second reproducing device for reproducing the audio information recorded in said second information record medium; and

a controlling device for setting a recording speed when recording the audio information into said second information record medium and a reproducing speed when reproducing the audio  
15 information from said second information record medium such that the recording speed is equal to or higher than the reproducing speed, and controlling said second reproducing device and said recording device so as to perform reproducing the recorded audio information from said second information record medium at the set reproducing  
20 speed in parallel to recording the audio information into said second information record medium at the set recording speed.

2. An information recording and reproducing apparatus according to Claim 1, wherein said controlling device sets the  
25 recording speed and the reproducing speed such that the recording speed is equal to or faster than two times the reproducing speed.

3. An information recording and reproducing apparatus according to Claim 1, wherein said controlling device sets the recording speed and the reproducing speed equal to each other, and  
5 controls said second reproducing device and said recording device so that said second reproducing device starts reproducing after said recording device starts recording.

4. An information recording and reproducing apparatus  
10 according to Claim 1, wherein said controlling device controls said first reproducing device and said recording device so as to convert a form of the audio information reproduced from said first information record medium and then record the audio information into said second information record medium.

15  
 5. An information recording and reproducing apparatus according to Claim 1, wherein said controlling device controls said recording device so as to compress the audio information, which is reproduced by said first reproducing device, and record the  
20 compressed audio information into said second information record medium, and controls said second reproducing device so as to reproduce the audio information from said second information record medium, expand the reproduced audio information and output the reproduced and expanded audio information to an  
25 external portion.

6. An information recording and reproducing apparatus according to Claim 1, wherein said controlling device controls said recording device so as to record information indicative of a portion of the audio information, which is being recorded at a time of stopping a recording operation of recording the audio information into said second information record medium, into said second information record medium and then stop the recording operation, when the recording operation is to be stopped in a middle of recording the audio information into said second information record medium.

7. An information recording and reproducing apparatus according to Claim 6, wherein said controlling device controls said recording device so as to output stop information indicative of stopping the recording operation to an external portion, when the recording operation is to be stopped in the middle.

8. An information recording and reproducing apparatus according to Claim 6, wherein

the recording operation is stopped by stopping a main electric power supplying device for supplying an electric power to said information recording and reproducing apparatus in a normal operation, and

said information recording and reproducing apparatus further comprises a sub electric power supplying device for supplying an electric power to said information recording and

reproducing apparatus after said main electric power supplying device is stopped.

9. An information recording and reproducing apparatus  
5 according to Claim 1, further comprising a compressing device for reproducing the recorded audio information from said second information record medium, compressing the reproduced audio information, and recording again the compressed reproduced audio information into said second information record medium.

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10. An information recording and reproducing apparatus according to Claim 1, wherein

said first information record medium comprises an optical disc, and

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said second information record medium comprises a magnetic disc.

11. An information recording and reproducing apparatus according to Claim 1, wherein

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on said second information record medium, map information to control a navigation function is further recorded, and

said information recording and reproducing apparatus further comprises a navigation device for controlling the navigation function by using the map information.

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12. An information recording and reproducing apparatus

comprising:

a first reproducing device for reproducing audio information from a first information record medium, in which the audio information is recorded;

5 a recording device for recording the reproduced audio information into a second information record medium;

a second reproducing device for reproducing the audio information recorded in said second information record medium; and

10 a controlling device for controlling said recording device to record the audio information, which is reproduced from said first information record medium by said first reproducing device, when the audio information is outputted as a sound and also controlling said second reproducing device to reproduce and output the audio information as the sound

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13. An information recording and reproducing apparatus according to Claim 12, further comprising a converting device for converting a form of the audio information, wherein

20 said controlling device controls said converting device and said recording device to convert the form of the audio information and then record the audio information when recording the audio information reproduced by said first reproducing device into said second information record medium.

25 14. An information recording and reproducing apparatus according to Claim 12, further comprising:

a compressing device for compressing the audio information;  
and

an expanding device for expanding the compressed audio  
information,

5        wherein

      said controlling device controls said compressing device and  
      said recording device to compress the audio information and then  
      record the compressed audio information when recording the audio  
      information, which is reproduced by said first reproducing device,  
10    into said second information record medium, and

      said controlling device controls said second reproducing  
      device and said expanding device to reproduce the compressed audio  
      information, expand the reproduced audio information and then  
      output the expanded audio information as a sound.

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15.    An information recording and reproducing apparatus  
      comprising:

      a reproducing device for reproducing audio information from  
      a first information record medium, in which the audio information is  
20    recorded;

      a recording device for recording the reproduced audio  
      information into a second information record medium; and

      a controlling device for controlling said reproducing device  
      and said recording device so as to perform recording the reproduced  
25    audio information into said second information record medium in  
      parallel to reproducing the audio information from said first

information record medium.

16. An information recording and reproducing apparatus according to Claim 15, further comprising a converting device for  
5 converting a form of the audio information, which is reproduced from said first information record medium, wherein

said recording device records the converted audio information into said second information record medium.

10 17. An information recording and reproducing apparatus according to Claim 15, wherein

the audio information is recorded in said first information record medium in a non-compressed state, and

said recording device compresses the audio information in  
15 the non-compressed state and then records the compressed audio information into said second information record medium.

18. An information recording and reproducing apparatus according to Claim 15, wherein

20 the audio information is recorded in said first information record medium in a compressed state,

said reproducing device comprises an expanding device for expanding the audio information in the compressed state, and

said recording device records the expanded audio information  
25 into said second information record medium.

19. An information recording and reproducing apparatus according to Claim 15, wherein

the audio information is recorded in said first information record medium in a compressed state,

5 said reproducing device comprises a decoding device for expanding and decoding the audio information in the compressed state, and

said recording device again compresses the expanded and decoded audio information and then records the again compressed  
10 audio information into said second information record medium.

20. An information recording and reproducing apparatus according to Claim 15, wherein

the audio information is recorded in said first information  
15 record medium in a compressed state, and

said recording device records the audio information in the compressed state into said second information record medium.

21. An information recording and reproducing apparatus  
20 according to Claim 15, wherein

the audio information is recorded in said first information record medium in a compressed state based on a first compressing method, and

said recording device records the audio information in a  
25 compressed state based on a second compressing method, which is different from the first compressing method, into said second



information record medium

22. An information recording and reproducing apparatus according to Claim 15, wherein said controlling device controls said recording device so as to record information indicative of a portion of the audio information, which is being recorded at a time of stopping a recording operation of recording the audio information into said second information record medium, into said second information record medium and then stop the recording operation, when the recording operation is to be stopped in a middle of recording the audio information into said second information record medium.

23. An information recording and reproducing apparatus according to Claim 22, wherein said controlling device controls said recording device so as to output stop information indicative of stopping the recording operation to an external portion, when the recording operation is to be stopped in the middle.

24. An information recording and reproducing apparatus according to Claim 22, wherein

the recording operation is stopped by stopping a main electric power supplying device for supplying an electric power to said information recording and reproducing apparatus in a normal operation, and

said information recording and reproducing apparatus

further comprises a sub electric power supplying device for supplying an electric power to said information recording and reproducing apparatus after said main electric power supplying device is stopped.

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25. An information recording and reproducing apparatus according to Claim 15, further comprising a compressing device for judging the audio information which is recorded in a non-compressed state from among the audio information recorded in  
10 said second information record medium, reproducing the judged audio information in the non-compressed state from said second information record medium, compressing the reproduced audio information by applying a predetermined compressing process onto the reproduced audio information, and recording again the  
15 compressed audio information into said second information record medium.

26. An information recording and reproducing apparatus according to Claim 15, wherein

20 said first information record medium comprises an optical disc, and

said second information record medium comprises a magnetic disc.

25 27. An information recording and reproducing apparatus according to Claim 15, wherein

on said second information record medium, map information to control a navigation function is further recorded, and

said information recording and reproducing apparatus further comprises a navigation device for controlling the navigation  
5 function by using the map information.

28. An information recording and reproducing method comprising:

a first reproducing process of reproducing audio information  
10 from a first information record medium, in which the audio information is recorded;

a recording process of recording the reproduced audio information into a second information record medium;

a second reproducing process of reproducing the audio  
15 information recorded in said second information record medium; and

a controlling process of setting a recording speed when recording the audio information into said second information record medium and a reproducing speed when reproducing the audio information from said second information record medium such that  
20 the recording speed is equal to or higher than the reproducing speed, and controlling said second reproducing process and said recording process so as to perform reproducing the recorded audio information from said second information record medium at the set reproducing speed in parallel to recording the audio information into said second  
25 information record medium at the set recording speed.

29. An information recording and reproducing method comprising:

5 a first reproducing process of reproducing audio information from a first information record medium, in which the audio information is recorded;

a recording process of recording the reproduced audio information into a second information record medium;

a second reproducing process of reproducing the audio information recorded in said second information record medium; and

10 a controlling process of controlling said recording process to record the audio information, which is reproduced from said first information record medium by said first reproducing process, when the audio information is outputted as a sound and also controlling said second reproducing process to reproduce and output the audio  
15 information as the sound

30. An information recording and reproducing method comprising:

20 a reproducing process of reproducing audio information from a first information record medium, in which the audio information is recorded;

a recording process of recording the reproduced audio information into a second information record medium; and

25 a controlling process of controlling said reproducing process and said recording process so as to perform recording the reproduced audio information into said second information record

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